STATE OF ILLINOIS)
) SS
COUNTY OF PEORIA)

BEFORE THE POLLUTION CONTROL BOARD
OF THE STATE OF ILLINOIS

CATERPILLAR TRACTOR CO.,	)	
	)	
Petitioner,	)	
	)	
v.	)	PCB 74-484
	)	
ENVIRONMENTAL PROTECTION AGENCY,	)	
	)	
	)	
Respondent.	)	

AMENDMENT TO VARIANCE PETITION

Now comes CATERPILLAR TRACTOR CO. (hereinafter referred to as "Caterpillar"), by its attorneys, Hugh B. Thomas of Caterpillar, and Richard J. Kissel of Martin, Craig, Chester & Sonnenschein, and hereby amends its Variance Petition (PCB 74-484, filed December 20, 1974) as follows:

1. In paragraph 5 of the Petition for Variance, Petitioner has set forth anticipated final compliance dates, to be achieved through the installation of flue gas desulfurization systems, for its Aurora, East Peoria, Morton and Mossville plants.

In response to a request by the Illinois Environmental Protection Agency, Petitioner has attempted to establish intermediate progress dates leading to the above mentioned final compliance dates for each of the facilities in question. Petitioner has used its best design and construction judgment in establishing such dates, as well as the final compliance dates, but they must be clearly understood as speculative estimates which may well require updating and sophistication as work progresses. In view of the current state of the national economy, shortages of goods and services and labor unrest, a high degree of uncertainty exists in all construction scheduling. Petitioner will make every effort to accomplish its objectives but the schedules must be recognized as estimates and not firm commitments.

In addition, if Petitioner's prototype flue gas desulfurization units at its Joliet and Mossville plants fail to perform to expectations or experience inadequate load testing for reasons beyond Petitioner's immediate control, or if undue restrictions should be placed upon the disposal of the sludges produced and thereby preclude continued long term operation, the

flexibility determine and develop revised schedules or other control options must be maintained and recognized. Petitioner's better judgment, as set forth in its original Variance Petition (PCB 73-63), remains that controls for the Aurora, East Peoria and Morton plants should await clear operating results from the Mossville and Joliet prototype installations. However, based upon the continuing legal requirements, the Board's denial of the original Variance, and the Environmental Protection Agency's insistence, Petitioner will reluctantly proceed to apply its best efforts as indicated below.

With the foregoing in mind, Petitioner's schedules for the installation of the subject flue gas desulfurization units are as follows:

	Aurora	East Peoria	Mossville	Morton
Consultant retained	11/20/74	11/14/74	6/ 1/73	11/20/74
Design criteria set Design started	1/ 2/75	11/14/74	6/ 1/73	1/20/75
Apply for EPA Construction Permit	12/15/75	3/ 1/76	12/ 9/74	1/15/76
Permit approval	2/ 1/76	4/15/76	1/15/75	3/ 1/76
Design documents complete:				
Buildings	10/15/75	1/ 1/76	1/11/74	11/15/75
Systems	10/15/75	1/ 1/76	1/11/74	11/15/75
Building and system construction complete	5/15/77	9/15/77	5/23/75	7/ 1/77
System operational for test and debug	6/15/77	10/ 1/77	5/28/75	7/15/77
System accepted for operation	9/11/77	12/15/77	9/18/75	9/11/77

The final compliance date for the East Peoria Plant installation has been revised to reflect Petitioner's recent discovery, during system design, of substantially greater than expected plant physical problems. The East Peoria Plant is an older facility with a complexity of underground utilities which not only must be rerouted to permit installation of the flue gas desulfurization system, but also cannot be disrupted if the Plant is to continue to operate in the interim.

2. As requested by the Illinois Environmental Protection Agency, attached as Exhibit A hereto is certain atmospheric monitoring and related information. This information is based upon a report, dated December 27, 1974, by The Atmospheric Sciences Section, Battelle Columbus Laboratories covering a suspended particulate matter and sulfur dioxide monitoring study, endorsed by the Environmental Protection Agency, from April, 1974, through September, 1974, conducted for a group of Peoria area businesses including Caterpillar.

3. In paragraph 4 of the Petition for Variance, Petitioner stated that it has firmly continued its development and testing of prototype flue gas desulfurization systems at the Joliet and Mossville Plants and further related that the Joliet

system is currently in the debugging stage while the Mossville system installation has been delayed for reasons beyond Petitioner's control.

In response to a request by the Illinois Environmental Protection Agency to further elaborate on the Joliet and Mossville progress, Petitioner offers the following:

Joliet: At the current stage of system debugging, Petitioner finds that the actual scrubbing process appears promising but its success is yet to be quantified due to the fact that instrumentation has not attained the operating mode. In addition, problems have arisen in the mechanical system of the regeneration phase of the flue gas desulfurization system but to date they are considered normal and subject to usual construction phase correction.

Mossville: Construction of the flue gas desulfurization system and related structures is currently in process; however, a two month, statewide Teamsters strike ending in late July, 1974, a strike at Petitoner's steel fabricator, relocation of steel to another fabricator, and the normal construction complexities arising out of the shifting of most of the building

construction from summer to winter, have caused delays beyond Petitioner's control.

In addition to amending the original Petition for Variance, Petitioner hereby waives the requirement of a decision by the Pollution Control Board to May 2, 1975.

DATED: January 27, 1975

CATERPILLAR TRACTOR CO.

By _____
Its Attorney

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Abstracted Six-Month Data Summary
from the Battelle - Peoria
Area Ambient Air Suspended Particulate
and Sulfur Dioxide Monitoring Study

The following information was abstracted from the December 27, 1974, report by Battelle Columbus Laboratories, Columbus, Ohio, on the Peoria Area Ambient air suspended particulate matter and sulfur dioxide monitoring study which provides a summary of the Data collected from April through September, 1974.

The objective of this research program is to determine the levels of suspended particulate and SO_2 (sulfur dioxide) in Peoria.

The sketch of monitoring site locations is given in Figure 1. September represents the end of the first 6 months of the monitoring program. There are no 6-month standards for SO_2 and suspended particulate concentrations, nevertheless, it is of interest to summarize at this point and see what the trends appear to be. Table 5 presents the 6-month summary.

Keeping in mind that we have only 6 months of data, the April-September average for SO_2 is greatest at the Energy Center Site with a value of 0.015 ppm (39.9 mg/m^3). The standard for SO_2 in terms of annual arithmetic mean is 0.03 ppm or 80 mg/m^3. Thus, the trend in terms of annual average appears to be safely within regulations. Table 5 presents the average value reported by Bradley University which can be compared best with the Noble Residence Site; it is of interest that the value from these two monitoring sites are exactly the same for the 6-month period.

Suspended particulate concentration is judged annually on the basis of geometric mean. The annual primary standard is a geometric mean of 75 mg/m^3 and the annual secondary is 60 mg/m^3.

Table 5 shows that the only monitoring site having a value in excess of the primary annual standard is the Energy Center. (Caterpillar must add that this area is subject to high concentrations of fugitive dust raised by truck traffic from barge terminal operations, railroad locomotive and automobile traffic from surrounding streets, and from vehicular activity on an elevated bridge a few hundred feet west of the Energy Center.) On the other hand, all stations except Ozark do exceed the secondary standard 60 mg/m^3. Again, it is of interest that the Bradley value for geometric mean and the value for the Noble Residence site check each other exceptionally well.

It should be pointed out that the Bradley 6-month value is based on daily high-volume sampler readings and the Noble Residence value for 6 months is based on readings taken every 6 days.

Wind data showing multi-month averages for wind direction are summarized by the wind roses presented in Figures 7, 8, and 9. At the Peoria-Sound and Airport Sites, 5 months of data are averaged in compiling the wind rose. In the case of the Energy Center Site only data for the months of May, June, and July were available. These wind roses indicate that prevailing winds in the Peoria area most often are from the southwest.

The following table and figures from the report are appended:

Table 5: Summary of SO_2 and Suspended Particulate Concentrations, Peoria, Illinois, April-September, 1974.

Figure 1: Atmospheric Monitoring Stations.

Figure 7: Average of Wind Directions, Peoria Sound Site, May through September, 1974.

Figure 8: Average of Wind Directions, Peoria Airport Data, May through September, 1974.

Figure 9: Average of Wind Directions, Energy Center Site, May, June, July, 1974.

TABLE 5.

SUMMARY OF SO_2 AND SUSPENDED PARTICULATE CONCENTRATIONS, PEORIA, ILLINOIS, APRIL-SEPTEMBER, 1974

Monitoring Site	Average SO_2		Particulate Concentrations micrograms/m^3 April-Sept.	
	ppm	micro-grams/m^3	Geometric Mean	Arithmetic Mean
Noble Residence Site	0.013	34.6	63	69
Ozark Substation Site	0.008	21.3	54	60
Energy Center Site	0.015	39.9	91	96
Bradley University Data	*0.013	34.6	66.6	77.3

* SO_2 values reported by Bradley as T (Trace) are considered as zero.

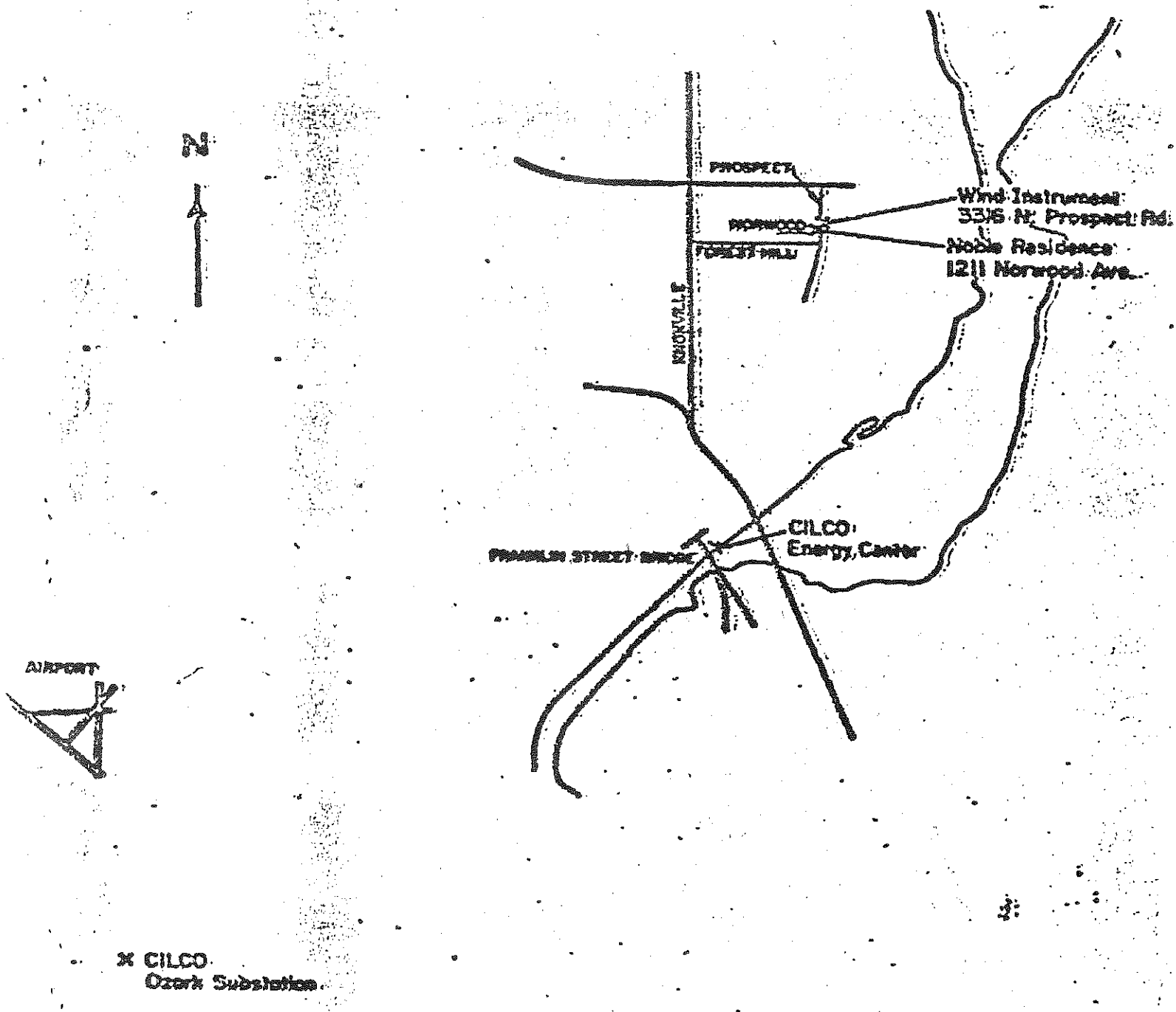

FIGURE 1. ATMOSPHERIC MONITORING STATIONS

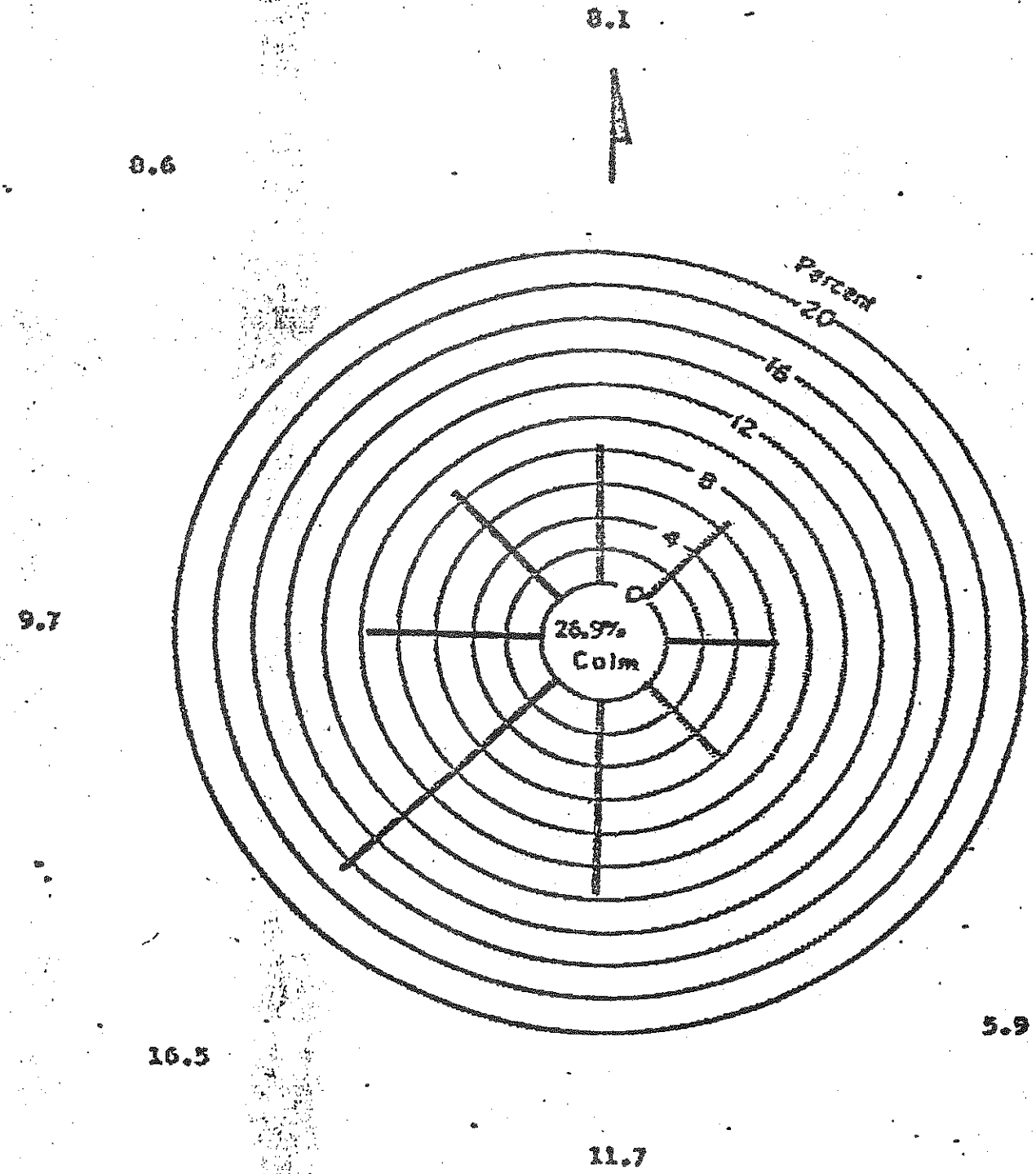

FIGURE 7. AVERAGE OF WIND DIRECTIONS, PEORIA-SCOTT SITE MAY THROUGH SEPTEMBER, 1974

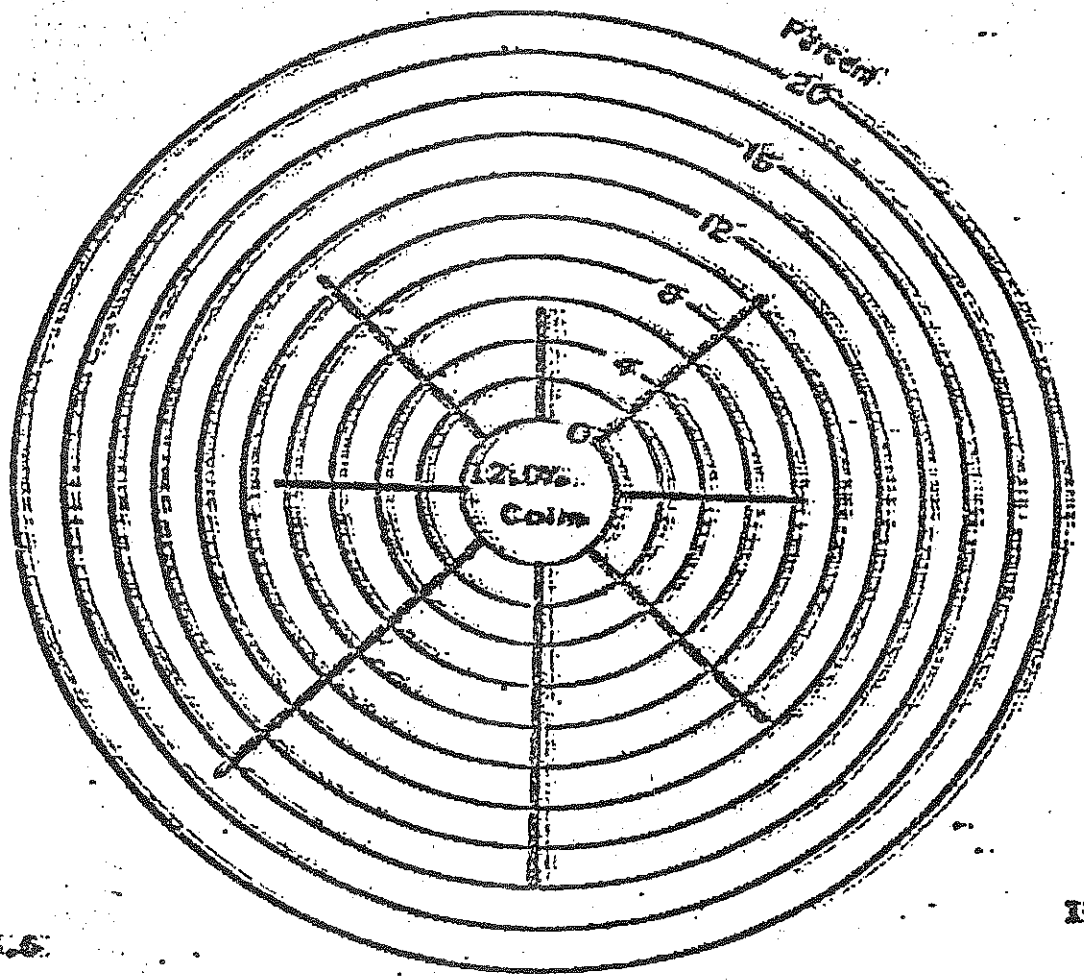

FIGURE 3. AVERAGE OF WIND DIRECTIONS, FLORIDA AIRPORTS DATA, MAY THROUGH SEPTEMBER, 1974.

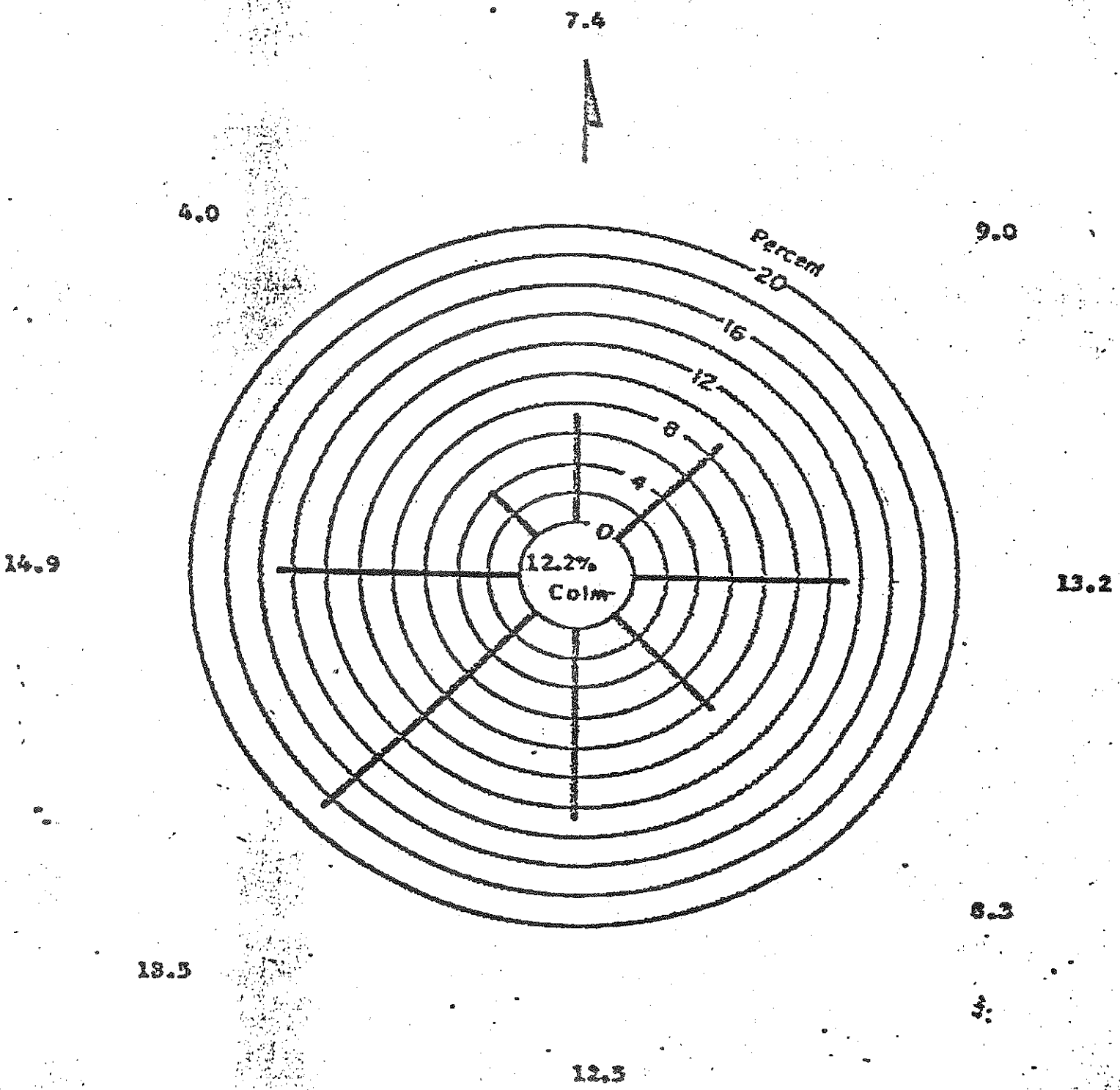

FIGURE 9. AVERAGE OF WIND DIRECTIONS, ENERGY CENTER SITE, MAY, JUNE, AND JULY, 1974